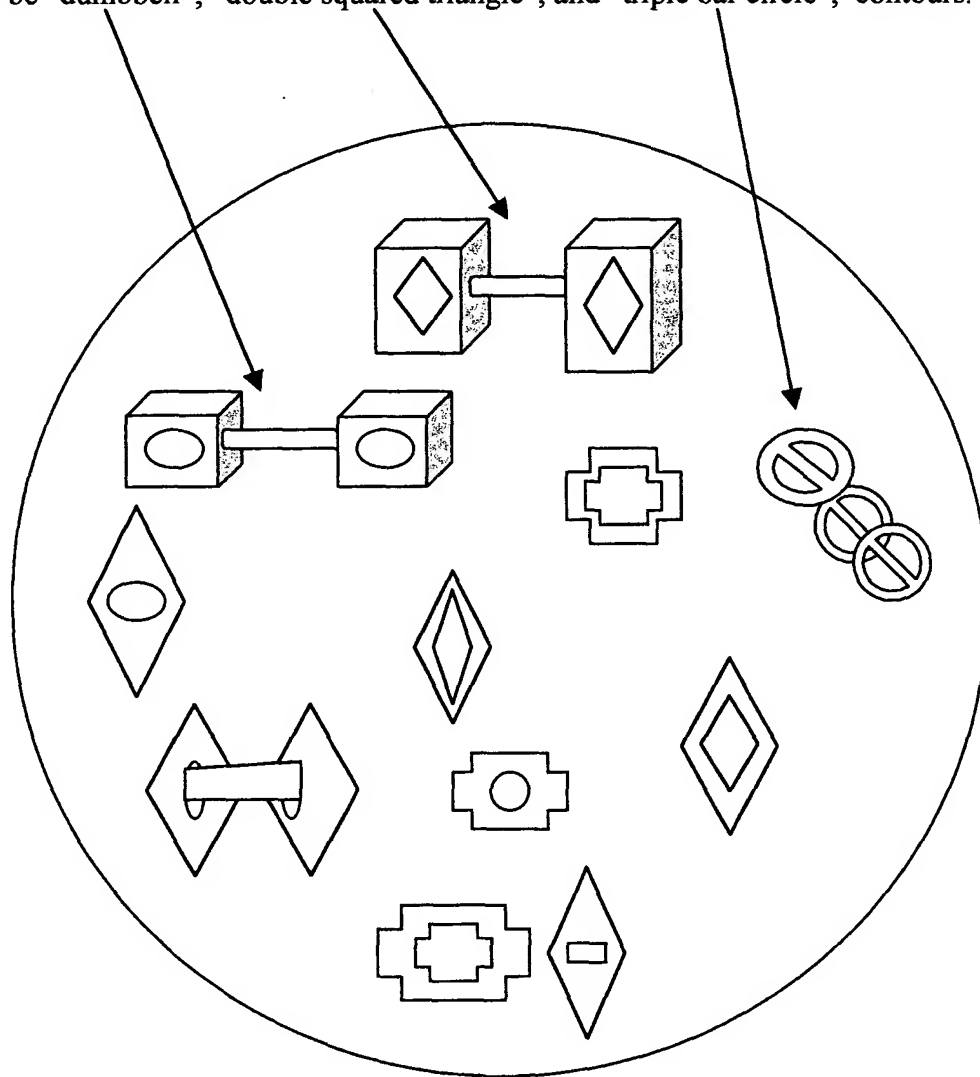


"Electromagnetic Brain Animation" Generator  
"The Thinking Cap"

Inventor: William Rogers – Phone: 210-408-1804

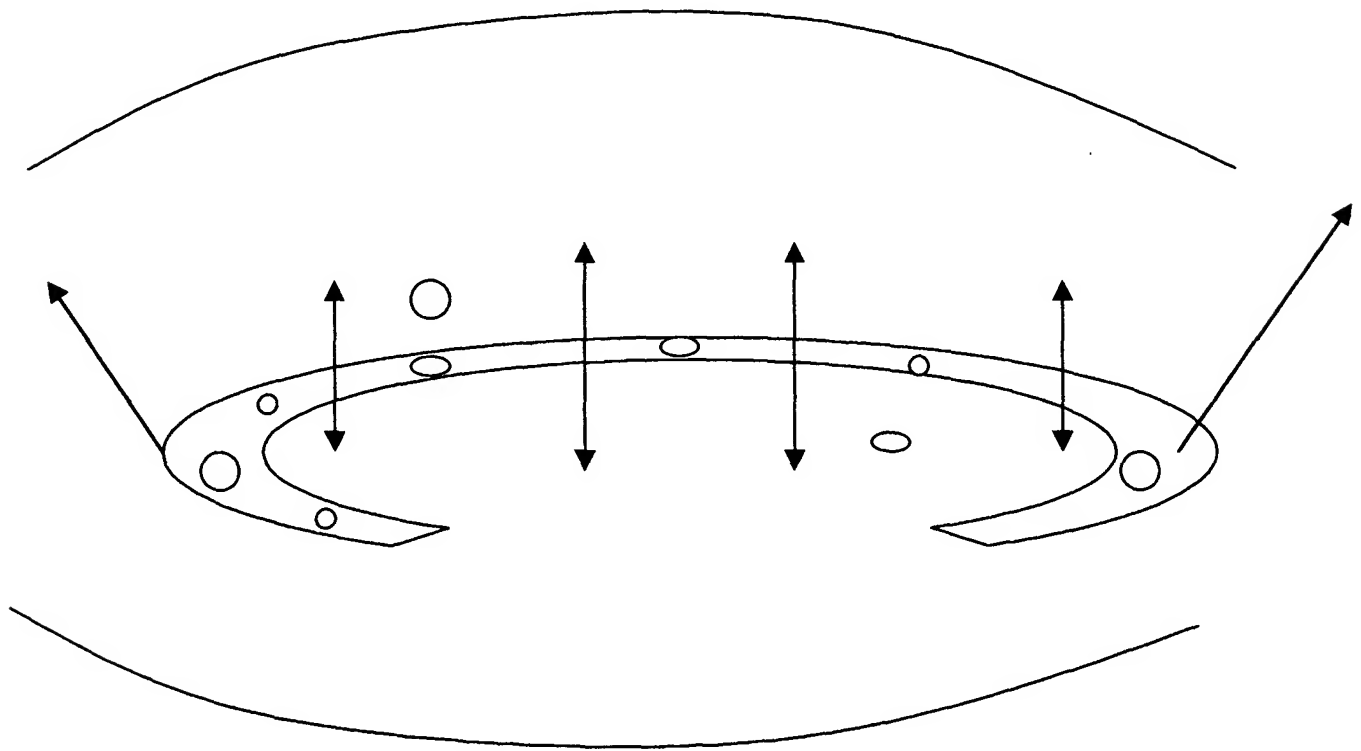
FIGURE (1) A simulated view, an example of inside of EBA "The Thinking Cap" which sits elevated over the patient's head previous to treatment. There are 100 + varying sized induction contact coils positioned for direct overhead and front/back, side/side neuron integration purposes <sample number shown here> of innovative proffered coils, i.e., 3 main would be "dumbbell", "double squared triangle", and "triple bar circle", contours.



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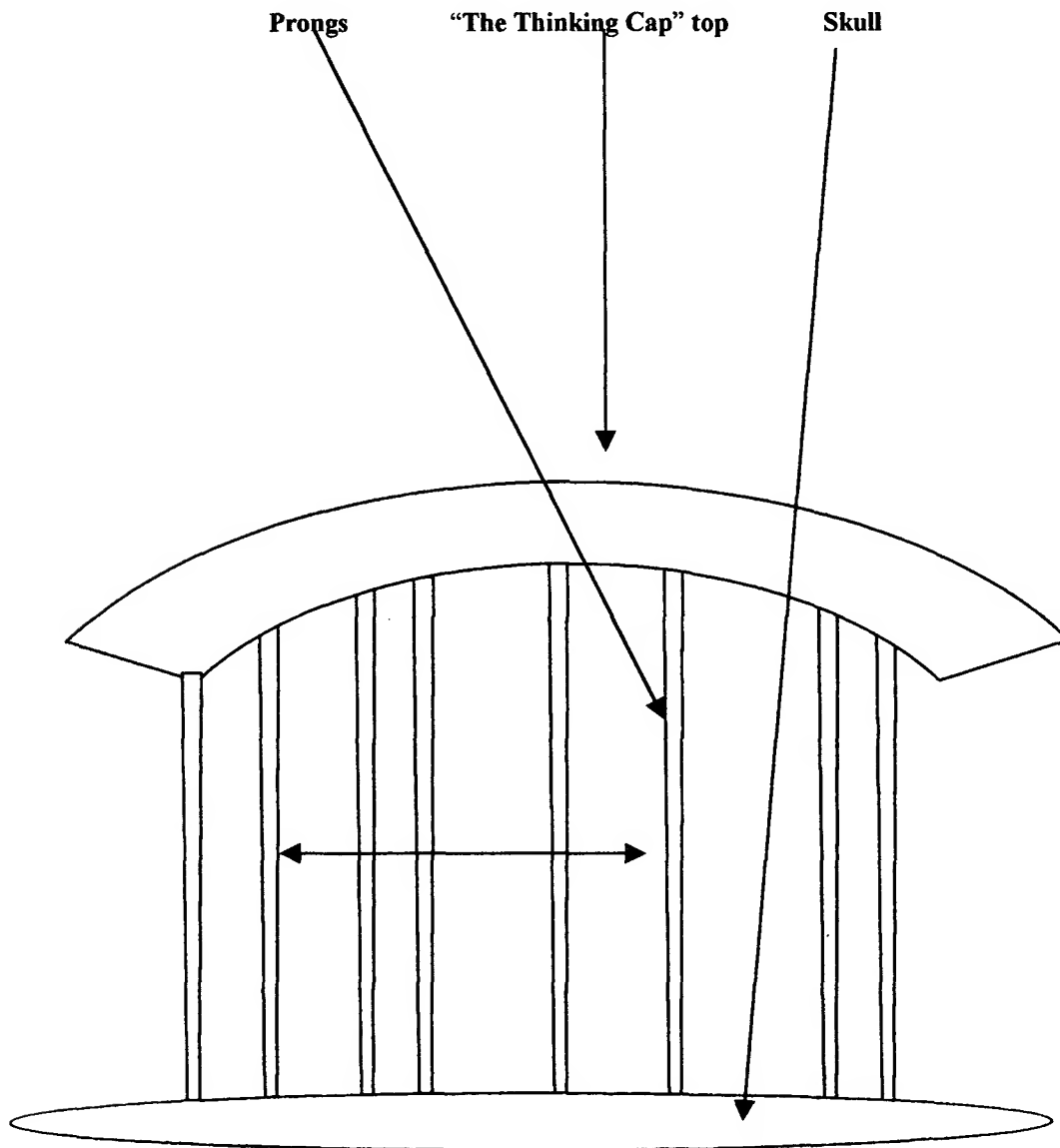
Inventor: William Rogers - Phone: 210-408-1804

FIGURE (2) Is the adjustable "plate" situated inside the "Thinking Cap" top and around front/back, L-side/R-side. Normally positioned one half to three quarters of an inch above the contacts/coils all-round the skull area. The "plate" is pliable conductive material about one sixteenth to one eighth inch in thickness bent in the basic underneath shape of the "cap". Purpose is, by controlled contact, to be able to increase emission field of two or more coils. Double-ended arrows indicative of extended plate area. Circles indicative of potential "holes" in plate for coil contact areas. Multiple more than example shown.



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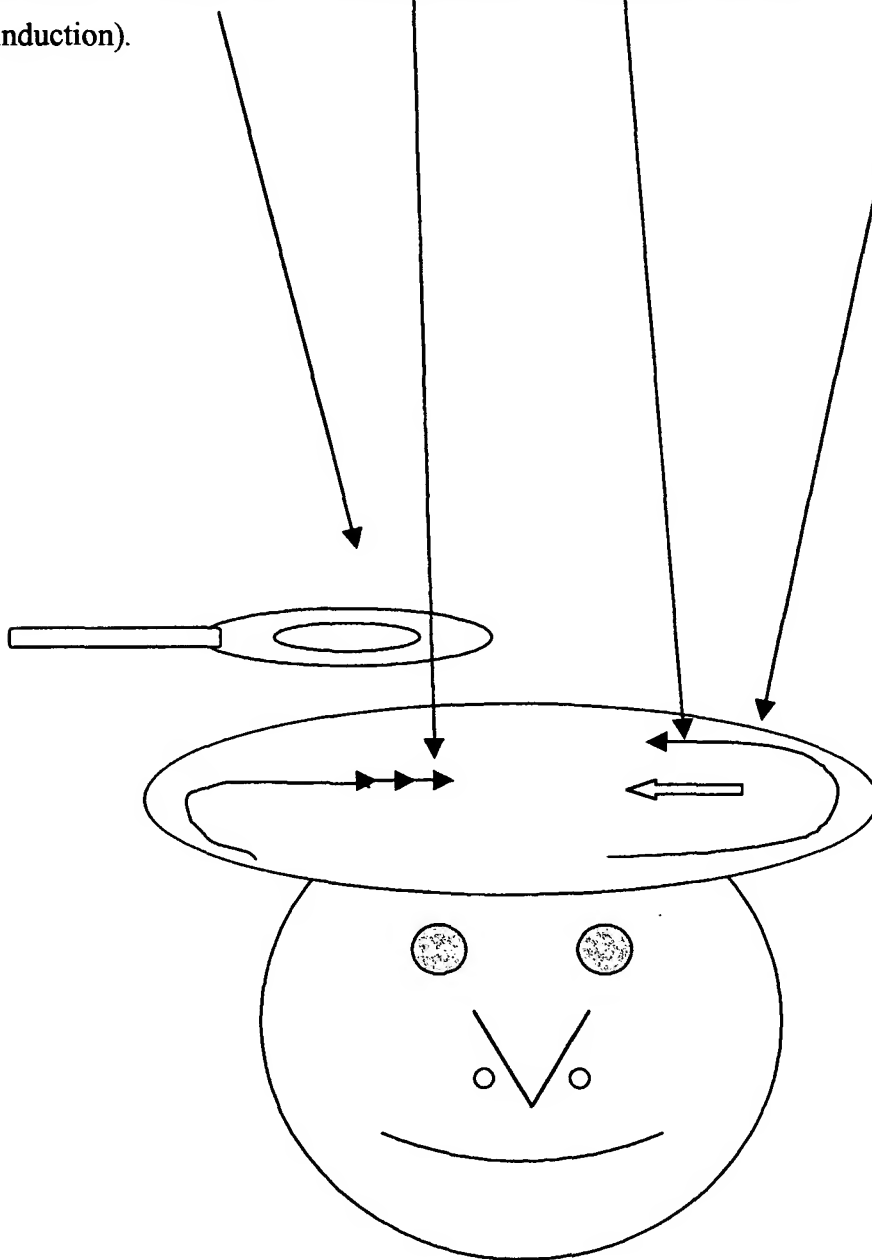
FIGURE 3 - Are the "prongs", moveable/adjustable, by which "The Thinking Cap" is fixated and situated on the patient's head previous to treatment. There are anywhere from 7 to 12 prongs. They are pliable and padded for comfort to the head. Adjustability distance of coils from skull can range from one half to 3-5 inches. These are similarity examples.



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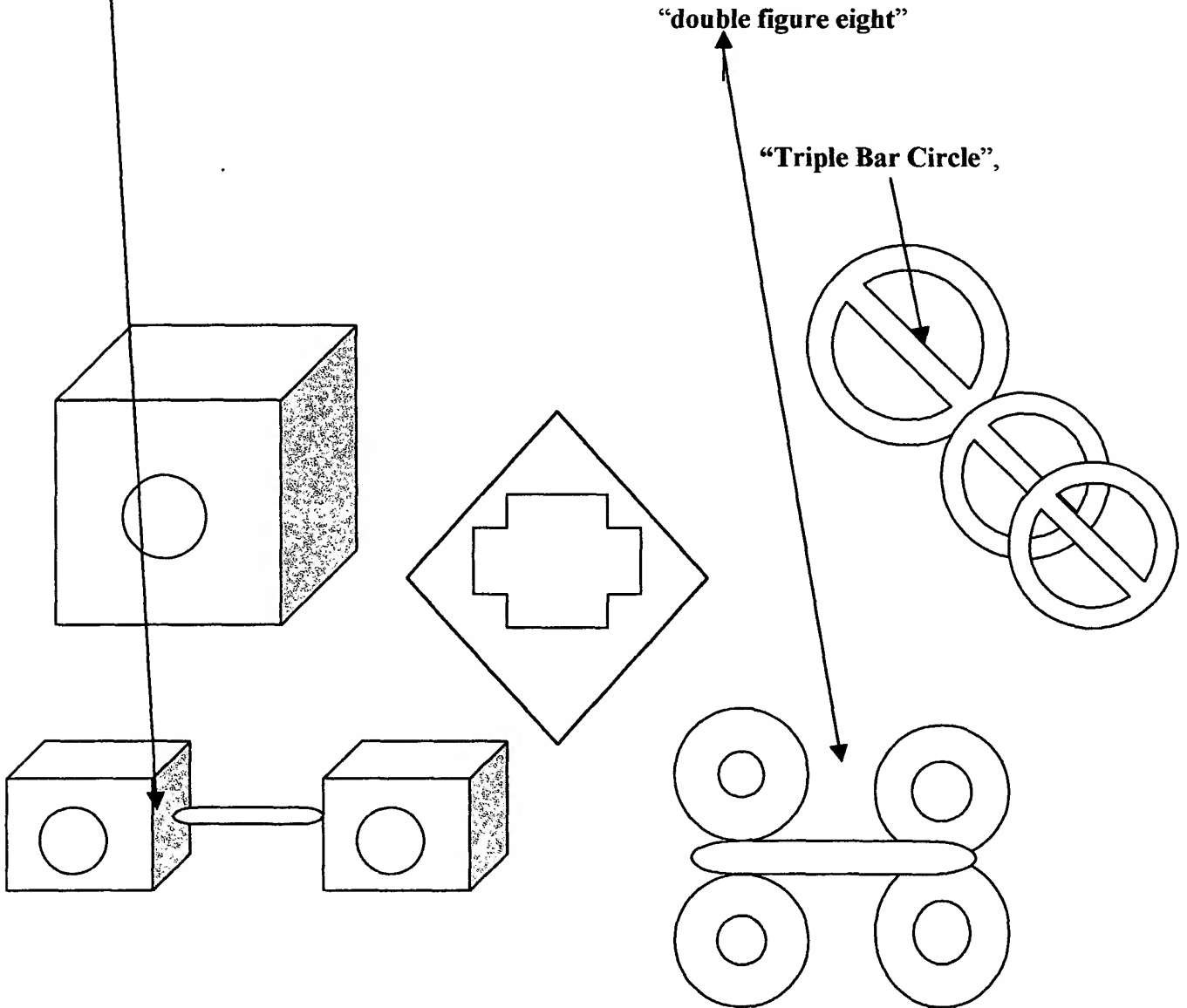
FIGURE (4) Is illustration of phenomenon of directional specificity > a single coil at the vertex can stimulate tissue according to the direction. The image shows basic current flow in singularity with induced currents from one round coil hand-held above patient's head. Very chaotic – quite non-specific and quasi-focus. This would be in considerable contrast to multi-emissions from a multiplicity of coil shapes via electromagnetic brain animation (EBA).. (single coil - primary current - secondary current - direction of positive induction).



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FIGURE (5) Shows multiple EBA coils in varying configurations. As shown here **"dumbbell"** (double squared with round holed center)– all emit a stronger, more utilizable electro-field than previous coils. The other coils are variations of the same advanced theme reference primary/secondary/preferred current direction.



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**FIGURE 6** Summarizes the basic chain of events pertaining to general non-invasive processes. The induced  $E$  is strongest near the coil and typically stimulates a cortical area of a few centimeters in diameter. Pulsation causes coherent firing of magnetic field formulations in the animated area as well as altered multiple firings to synaptic input, i.e., neurotransmitter-receptor clusters. At microscopic level,  $E$  affects the nerve cells' transport voltage across brain region membrane and thereby the voltage-sensitive ion channels. Complementary brain imaging tools are used to detect the associated electrical currents and changes in blood flow of metabolism. With EBA, due to coil numbers, emission gradients, and configurations there would be exponential intra/extra variations throughout the procedure resulting in the "animation coagulation".

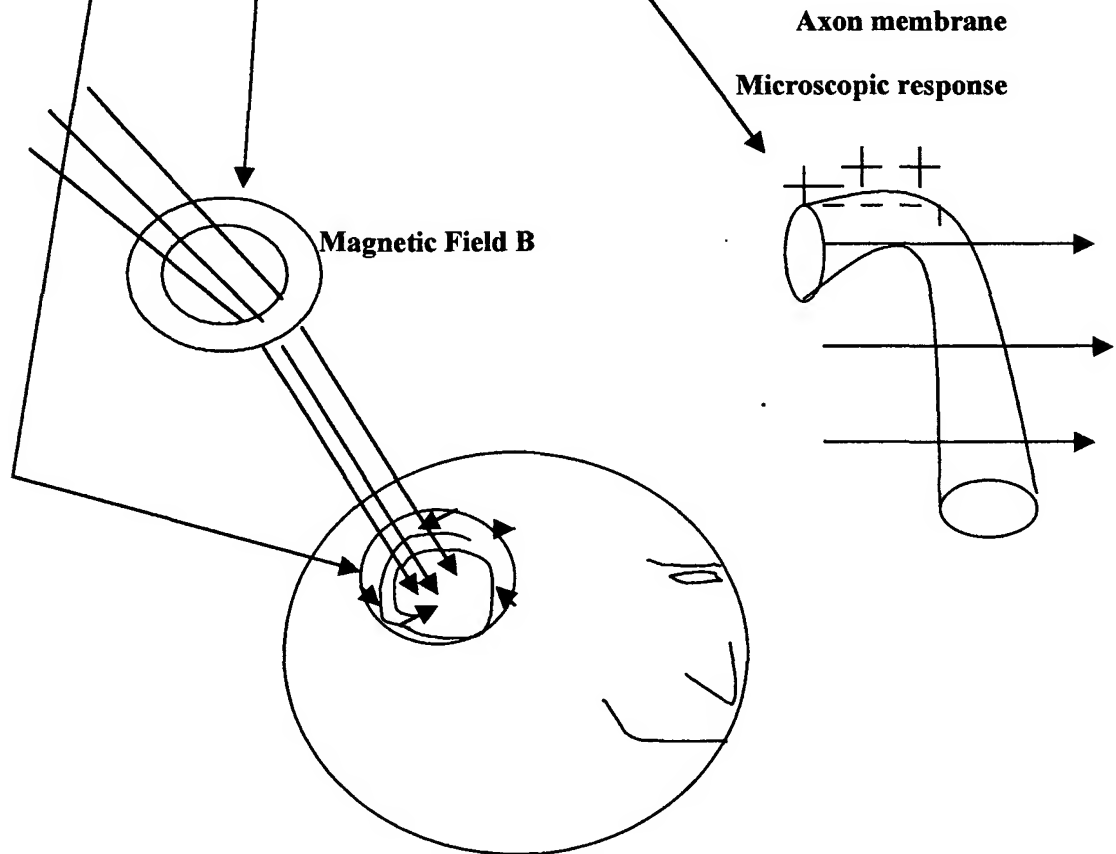


FIGURE (7) Shows differentiation between early childhood development habituation and highest plasticity relating to critical time for peak window of opportunity pertaining to maximum success via EBA intervention assisting facilitation of neuron evolution. Generation is at its most sensitive to outside inducement relating to such as dendrites, spines, cell bodies, myelin sheaths, axons, synapses, i.e., the continuum of nerve construction.

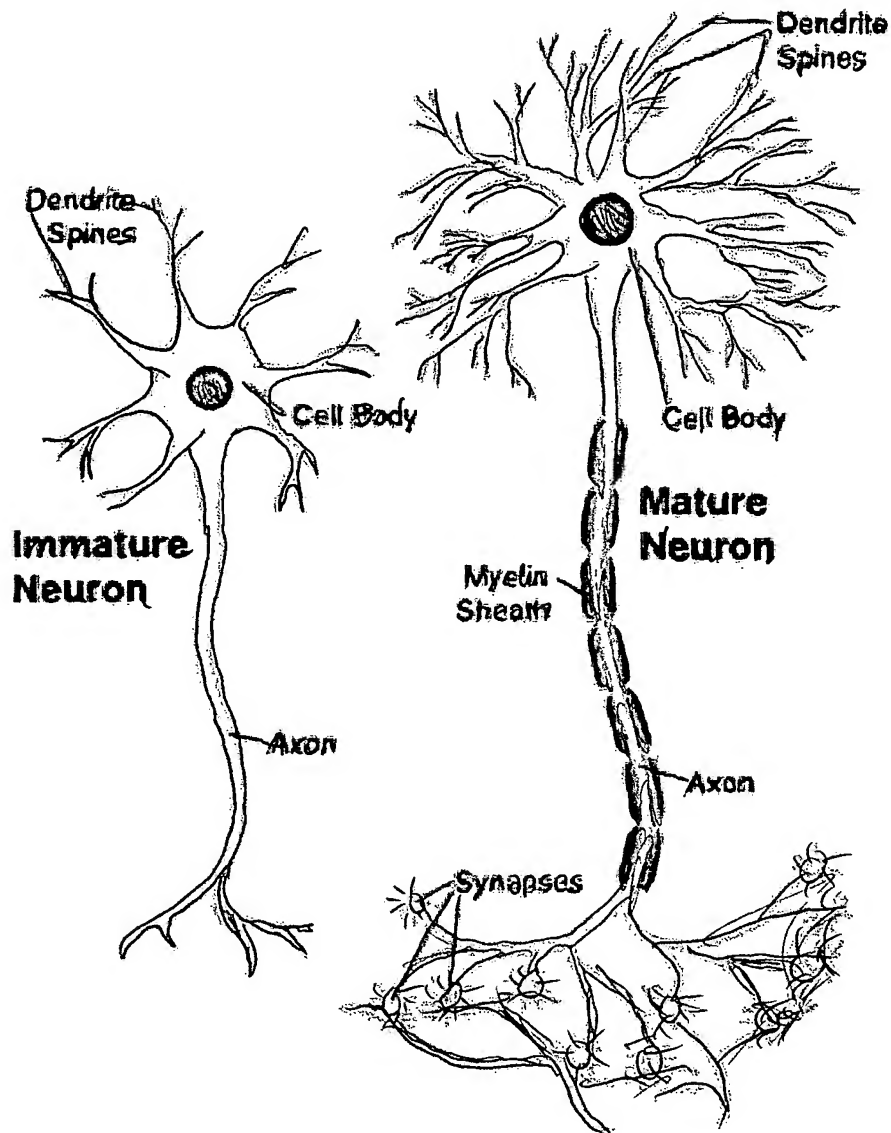
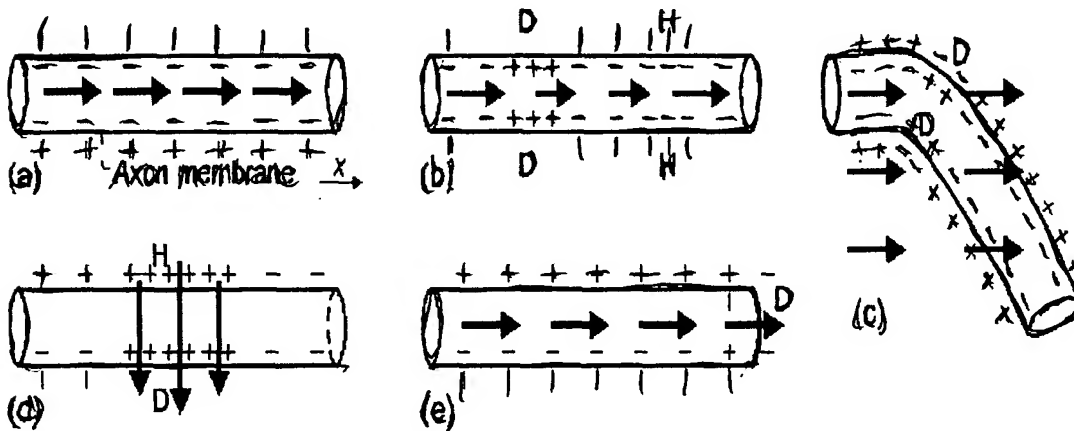


FIGURE (7) The ratio of the transverse and gradient field mechanisms is independent of the axon size. A schematic illustration of activation mechanisms and axon membrane polarization in a transverse field is shown for varying external applications of electric field patterns. A schematic illustration of the activation mechanisms. The axon membrane polarization is sketched for different externally applied electric field patterns (arrows): (a) identical  $E$  down the axon, no variation from the resting status (b) gradient initiation (c) crooked axon in uniform  $E$ , depicting only the gradient activation; (d) transverse activation, with  $E$  locally across the axon; (e) axon concluding in uniform  $E$ . D and H signify depolarization and hyper-polarization, in that order. Implicit indication is then given that  $E$  is indistinguishable outside and inside the cells.

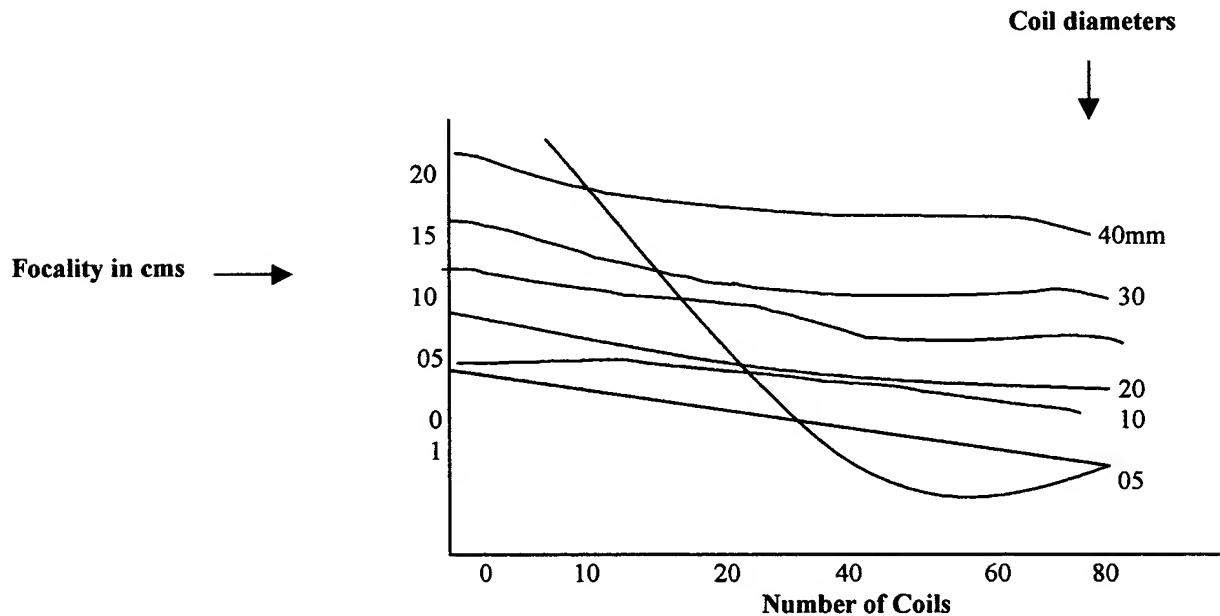




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FIGURE 9- Refers to use of multiple independently controlled animating coils. It has any number of advantages of over standard one coil or figure-of-eight coil stimulation. One can excite/animate numerous loci at the same time, or at delaying or varying times. With EBA, the operator can concentrate two or more coils at one locations and/or multiple locations with any number of cross configurations. In addition, the smaller the coils in combination with the multiplicity of coils relates directly to the size and specificity of the focality of animation induction. Below gives indication of smaller focal points directly correlated with size and number of coils.



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FIGURE (10) Outer view of "Thinking Cap", adjustable prongs, adjustable chin stability assistance, and other named parts of instrumentation. Relating to the **ultrasound** attachments, Validation of localized stimulation of active (nerve or cortical) tissue by ultrasonically induced electric fields relates directly toward analytical solutions pertain to the field distribution which can be derived for an ideally collimated ultrasonic beam. As an example, an ion in a conductive medium with charge  $q$ . The longitudinal particle motion of an ultrasonic wave will cause the ion to oscillate back and forth in the medium with velocity  $v$ . In the presence of a constant magnetic field,  $\mathbf{B}_0$ , the ion is subjected to the Lorentz force  $\mathbf{F} = q\mathbf{v} \times \mathbf{B}_0$ . (1) This produces an electric current density given by  $\mathbf{J}_0 = (n_+u_+ + n_-u_-)\mathbf{F}$  (Refer to additional data relevant section patent).

"Thinking Cap" Cover/Casing inclusive  
 of Power relays to coils

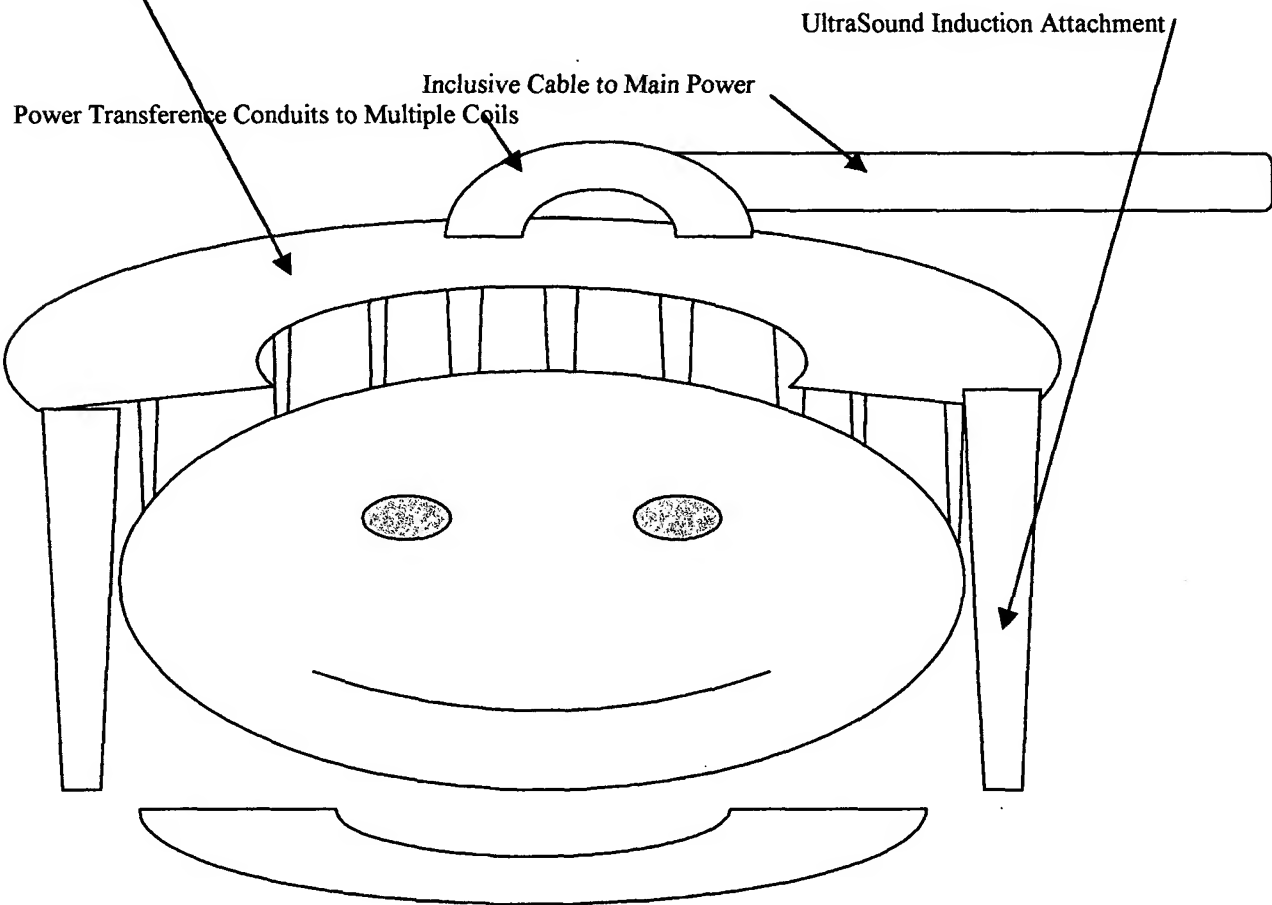


FIGURE 11- Shows the initial treatment modality relating to EBA/US whereas ultrasonic waves vibrating at frequencies greater than 20,000 cycles per second are integrated through the human/patient's skull and into an excitation focal area (in this case the "limbic system" due to manifestation of "overanxious disorder" ). The sonographic induction causes initial 1st phase animation to enmesh targeted organicity bringing multiple neuron structure to hypersensitive pre-threshold status

**Ultrasound Instrument**

